

**Notice of Allowability**

Application No.

09/846,146

Applicant(s)

KUHN, JAY A.

Examiner

Jason M. Perilla

Art Unit

2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed May 25, 2005.
2. ☒ The allowed claim(s) is/are 1-6, 8-12, 14, 15, and 17-20 renumbered respectively as claims 1-17.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 20050621.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>20050621</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|   | 9. <input type="checkbox"/> Other _____  |

### EXAMINER'S AMENDMENT

1. Claims 1-6, 8-12, 14, 15, and 17-20 are pending in the instant application.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Christopher Maiorana on June 27, 2005.

The application has been amended as follows:

Regarding claim 1, in line 7, "more of control" is replaced by --more control--.

Regarding claim 3, in line 3, "control a delay" is replaced by --control the delay--.

Regarding claim 11, in line 3, "a phase comparator circuit configured" is replaced by --a phase comparator circuit comprising said plurality of phase comparators configured--.

The following versions of claims 14, 15, 19, and 20 replace all prior versions and listings of the claims in their entirety.

14 An apparatus comprising:

means (i) for generating (a) an output signal having a frequency in response to a skew signal and (b) one or more control signals and (ii) selecting one of a plurality of input signals;

means for generating said skew signal in response to said one or more control signals; and

means for minimizing timing skew between said selected input signal and said output signal, wherein said apparatus is configured to provide a self test of an internal skew and said means for generating the one or more control signals comprises a plurality of phase comparators.

15. A method for correcting skew between an input signal and ~~a feedback of an~~ output signal, comprising the steps of:

(A) receiving a plurality of input signals;

(B) selecting one of said plurality of input signals;

(C) generating one or more control signals;

(D) selecting one of said one or more control signals;

(E) counting the selected control signal;

~~(C) (F) generating a skew signal in response to said selected input signal a result of step (E) and a feedback of said output signal; and~~

~~(D) (G) adjusting a delay between said selected input signal and said feedback of said output signal; in response to said skew signal; and by digitally programming said delay~~

~~(E) digitally programming said delay.~~

19. An apparatus comprising:

a first circuit configured to (i) select one of a plurality of input signals and (ii) generate (a) an output signal having a frequency in response to a skew signal and (b) one or more control signals, wherein said first circuit comprises a digitally programmable delay circuit configured to control a delay between said selected input signal and said output signal; and

a second circuit configured to generate said skew signal in response to said one or more control signals, wherein (i) said first circuit is configured to minimize skew between said selected input signal and said output signal in response to said skew signal using the delay and (ii) said second circuit comprises a multiplexer circuit configured to receive said one or more control signals and a counter circuit configured to receive an output of said multiplexer to generate said skew signal; and

~~a digitally programmable delay circuit configured to control a delay between said selected input signal and said output signal.~~

20. An apparatus comprising:

a first circuit configured to (i) select one of a plurality of input signals and (ii) generate (a) an output signal having a frequency in response to a skew signal and (b) one or more control signals; and

a second circuit comprising a multiplexer circuit configured to receive said one or more control signals and a counter circuit configured to receive an output of said multiplexer and generate said skew signal in response to said one or more control signals, wherein (i) said first circuit is configured to minimize skew between said selected input signal and said output signal in response to said skew signal, and (ii) said skew signal comprises a digital word.

**Claims 1-6, 8-12, 14, 15, and 17-20 are renumbered respectively as claims 1-17, and the claim dependency is renumbered accordingly.**

3. The following changes to the drawings have been approved by the examiner and agreed upon by applicant: Replacement drawing sheets for figures 1-4 having reference

numbers that are clear and spaced evenly to be easily legible. In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

***Allowable Subject Matter***

4. Claims 1-6, 8-12, 14, 15, and 17-20 renumbered respectively as claims 1-17 are allowed.

Claims 1-6, 8-12, 14, 15, and 17-20 renumbered respectively as claims 1-17 are allowed because the prior art of record does not disclose or obviate the claimed subject matter including a first circuit for selecting one of a plurality of input signals and generating one or more control signals *via a plurality of phase detectors*, or a second circuit generating a skew signal in response to the one or more control signals by selecting a one of the one or more control signals by a multiplexer and counting the output of the multiplexer with a counter.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record is cited to further show the state of the art with respect to the correction of differential signal paths:

U.S. Pat. No. 5220201 to Kawasaki et al.

U.S. Pat. No. 5790611 to Huang et al.

U.S. Pat. No. 6125157 to Donnelly et al.

U.S. Pat. No. 4623805 to Flora et al.

Art Unit: 2638


U.S. Pat. No. 6775342 to Young et al.

U.S. Pat. No. 6140854 to Coddington et al.

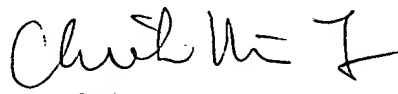
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vanderpuye Kenneth can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jason M. Perilla  
June 27, 2005

jmp

  
**CHIEH M. FAN**  
**PRIMARY EXAMINER**